

Remarks/Arguments:

With respect to the restriction requirement, Applicants affirm the election of claims 1 through 15 for prosecution in this application.

With respect to the objection to the drawings, the drawings have been amended to overcome the objection. Parts shown in section have been cross-hatched.

Reconsideration and allowance of claim 2, rejected under 35 U.S.C. 112, second paragraph, are respectfully requested. As set forth:

- at page 4, lines 28 through 30, "the circuit lines are sub-surface lines extending from one chip site to another (i.e., within the chip sites of the multi chip module substrate)" (emphasis added), and

- at page 4, lines 6 through 9, "the repair lines.....are typically sub-surface lines (i.e., within the chip sites of the multi chip module substrate extending from one chip site to another)" (emphasis added).

From the foregoing, one reading the patent application has a clear understanding of the meaning of the word "within" as used in claim 2. The Examiner is correct in characterizing the circuit lines and the repair lines of the embodiment of Applicants' invention that is disclosed as being "embedded inside the circuit board."

Reconsideration and allowance of claims 1 through 15, "rejected under 35 U.S.C. 103(a) as being unpatentable over Seyama US Patent No. 4,912,603 in view of Nathan et al., US Patent No. 5,917,229, hereafter Nathan and Thornberg, US Patent No. 5,360,948," are respectfully requested. Shortly after receiving the Office Action, Applicants' attorney called the Examiner and the Examiner advised Applicants' attorney that this Section 103(a) rejection was set forth incorrectly in the Office Action and should have been stated as "Seyama in view of Janai et al. and Thornberg."

Applicants' invention, as defined by claim 1, differs from Seyama, Janai et al., and Thornberg, whether considered individually or collectively, in that none of these references discloses or suggests

a repair line net having a plurality of groups of repair lines, each said repair line extending between and electrically connecting a repair via of one said chip site and a repair via of another said chip site.

While Janai et al. and Thornberg might disclose the notion of "prepatterned lines for future changes" that "can be provided depending upon the specific situation for quick change or repair of the defective elements," such a disclosure does not make obvious the inclusion in Seyama of the specific repair line net of Applicants' invention as recited in claim 1. First, Applicants' specific repair line net is not disclosed in the prior art; second, there is no teaching or suggestion in the prior art that Applicants' specific repair line net is a matter of design choice; and, third, there is no teaching or suggestion in the prior art that Applicants' specific repair line net can or should be incorporated in Seyama.

The disclosure of the general notion of prepatterned lines for future changes does not make any more obvious specific implementations of this general notion than the notion of a transistor serving as the active element in an electronic circuit making obvious the inclusion of a differently configured transistor in a particular electronic circuit. In effect, the Examiner is saying that once a concept is disclosed, improvements on the disclosed implementation of the concept and different implementations of the concept cannot be patented because all such improvements and different implementations are obvious. We know that this is wrong.

Rather, the novelty of the invention must be disclosed in the prior art or must be obvious when the prior art is considered as a whole to deny the grant of a patent. The rejection of claim 1 is based entirely on the belief that, by disclosing a concept, the prior art makes obvious Applicants' specific implementation of the concept. In other words, the disclosure in the prior art of the concept of prepatterned lines for future changes and nothing more is the consideration of the whole of the prior art by the Examiner, whereby Applicants' invention as defined by claim 1 is rejected. With an acknowledgement by the Examiner that neither Seyama nor Janai et al. nor Thornberg disclose

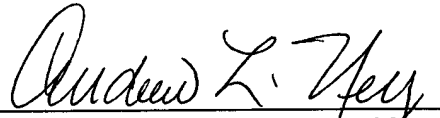
a repair line net having a plurality of groups of repair lines, each said repair line extending between and electrically connecting a repair via of one said chip site and a repair via of another said chip site

and a failure to support a contention that this aspect of Applicants' invention is obvious, the rejection of claim 1 and claims 2 through 15, dependent directly or indirectly on claim 1, should be withdrawn and these claims should be allowed.

With respect to claim 7, the Examiner acknowledges that Seyama "does not disclose the jumper connections." The Examiner states that "such prepatterned connections can be provided depending upon the specific requirement as applied to claim 1 above for quick repair/changes in the circuit boards." A desired result of "quick repair/change in the circuit boards" does not make obvious the inclusion of "jumper connections" in Applicants' invention. The Examiner, in making the statement that "it would have been obvious.....to provide the modified circuit board assembly of Seyama with the jumper connections, as taught by Janai and Thornberg in order to have quick change or repair into the circuit board," is saying that the results achieved by the invention dictate the specific elements, features, and details of the invention as defined by a claim, so that the invention is obvious. This is wrong. One cannot conclude that a claim that defines an invention in terms of the elements, features, and details that make up the invention is obvious simply because those elements, features, and details, when combined, produce a desired result. The desired result is the motivation for making the specific invention that is defined by the claim --- the desired result does not dictate the make-up of the specific invention that is defined by the claim.

In view of the foregoing amendments and remarks, this application is in condition for allowance which action is respectfully requested.

Respectfully submitted,



Andrew L. Ney, Reg. No. 20,300
Attorney for Applicants

ALN/kak

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Attachments: Figures 2, 3. and 4 (2 sheets)

P.O. Box 980
Valley Forge, PA 19482-0980
(610) 407-0700

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